

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A lithographic apparatus comprising:
a support structure configured to hold a patterning device, the patterning device configured to impart a beam of radiation with a pattern in its cross-section;
a substrate table configured to hold a substrate;
a projection system configured to project the patterned beam onto a target portion of the substrate; and
a liquid supply system configured to supply a liquid to substantially only a localized area of the substrate, of the substrate table, or of both, to at least partly fill a space between the projection system and the substrate, the substrate table, or both, wherein the localized area is less than the area of a surface of the whole substrate, and
wherein the substrate table comprises a barrier configured to collect liquid escaping from the localized area, the barrier surrounding and spaced apart from the substrate and comprising a projection which projects out above an upper surface of the substrate table and a groove recessed into an upper surface of the substrate table.
2. (Previously Presented) The apparatus of claim 1, wherein the projection projects out of the upper surface of the substrate table.
3. (Original) The apparatus of claim 1, wherein at least a part of the barrier comprises a liquidphillic material or coating.
4. (Cancelled)
5. (Currently Amended) The apparatus of claim 1[[4]], wherein the groove is sized such that the liquid can be transported along the groove under capillary action.

6. (Withdrawn – Currently Amended) The apparatus of claim 1[[4]], wherein the substrate table further comprises a chamber in liquid contact with the upper surface via the groove and wherein the groove forms a continuous loop.

7. (Original) The apparatus of claim 1, further comprising a low pressure supply configured to remove liquid from the barrier.

8. (Original) The apparatus of claim 7, wherein the low pressure supply comprises a plurality of discrete outlets.

9. (Original) The apparatus of claim 7, wherein the low pressure supply operates independently of the liquid supply system.

10. (Original) The apparatus of claim 1, further comprising a surface acoustic wave generator configured to generate surface acoustic waves in the barrier to facilitate transport of liquid along the barrier.

11. (Original) The apparatus of claim 10, wherein the surface acoustic wave generator comprises a piezoelectric actuator.

12. (Currently Amended) The apparatus of claim 1, wherein the barrier ~~further~~ comprises a further groove and the projection projects out of the upper surface of the substrate table.

13. (Withdrawn – Currently Amended) The apparatus of claim 12, wherein the substrate table comprises a chamber in liquid contact with the upper surface via the further groove.

14. (Withdrawn) The apparatus of claim 13, wherein the chamber is at least partly formed in the projection.

15. (Previously Presented) The apparatus of claim 1, wherein the barrier is positioned radially outwardly of a drainage ditch or an additional barrier, surrounding an outer peripheral edge of the substrate.

16. (Original) The apparatus of claim 1, wherein the barrier extends substantially around an outer edge or portion of the substrate table.

17. (Original) The apparatus of claim 1, wherein the barrier additionally surrounds areas of an upper surface of the substrate table which are not covered by the substrate.

18. (Original) The apparatus of claim 1, wherein the barrier additionally surrounds at least one sensor mounted on an upper surface of the substrate table and/or a closure member configured to seal the liquid supply system.

19. (Currently Amended) A device manufacturing method comprising:
providing a liquid to substantially only a localized area of a substrate, of a substrate table, or of both, to at least partly fill a space between a projection system and the substrate, the substrate table, or both;

projecting a patterned beam of radiation through the liquid onto a target portion of the substrate using the projection system; and

collecting liquid escaping from the localized area with a barrier, the barrier surrounding and spaced apart from the substrate and comprising a projection which projects out above an upper surface of the substrate table and a groove recessed into an upper surface of the substrate table,

wherein the localized area is less than the area of a surface of the whole substrate.

20. (Previously Presented) The method of claim 19, wherein the projection projects out of the upper surface of the substrate table.

21. (Cancelled)
22. (Original) The method of claim 19, further comprising removing liquid from the barrier using a low pressure supply.
23. (Original) The method of claim 22, wherein removing liquid from the barrier operates independently of providing the liquid.
24. (Original) The method of claim 19, further comprising generating surface acoustic waves in the barrier to facilitate transport of liquid along the barrier.
25. (Currently Amended) The method of claim 19, wherein the barrier ~~further~~ comprises a further groove and the projection projects out of the upper surface of the substrate table.
26. (Withdrawn – Currently Amended) The method of claim 25, wherein the substrate table comprises a chamber at least partly formed in the projection and in liquid contact with the upper surface via the further groove.
27. (Previously Presented) The method of claim 19, further comprising removing liquid using a drainage ditch or an additional barrier, surrounding an outer peripheral edge of the substrate and positioned radially inwardly of the barrier.
28. (Currently Amended) A lithographic apparatus comprising:
a support structure configured to hold a patterning device, the patterning device configured to impart a beam of radiation with a pattern in its cross-section;
a substrate table configured to hold a substrate;
a projection system configured to project the patterned beam onto a target portion of the substrate; and

a liquid supply system configured to supply a liquid to substantially only a localized area of the substrate, of the substrate table, or of both, to at least partly fill a space between the projection system and the substrate, the substrate table, or both,

wherein the localized area is less than the area of a surface of the whole substrate, and

wherein the substrate table comprises a ~~first~~ barrier configured to collect liquid escaping from the localized area, the ~~first~~ barrier surrounding and spaced apart from the substrate and positioned radially outwardly of a drainage ditch ~~second barrier~~ surrounding an outer peripheral edge of the substrate.

29. (Currently Amended) The apparatus of claim 28, wherein at least a part of the ~~first~~ barrier comprises a liquidphillic material or coating.

30. (Currently Amended) The apparatus of claim 28, wherein the ~~first~~ barrier comprises a groove recessed into an upper surface of the substrate table.

31. (Withdrawn - Previously Presented) The apparatus of claim 30, wherein the substrate table further comprises a chamber in liquid contact with an upper surface of the substrate table via the groove and wherein the groove forms a continuous loop.

32. (Currently Amended) The apparatus of claim 28, wherein the ~~first~~ barrier comprises a projection which projects out above an upper surface of the substrate table.

33. (Withdrawn - Previously Presented) The apparatus of claim 32, wherein the substrate table further comprises a chamber at least partly formed in the projection, the chamber in liquid contact with an upper surface of the substrate.

34. (Currently Amended) The apparatus of claim 28, further comprising a low pressure supply configured to remove liquid from the ~~first~~ barrier.

35. (Currently Amended) The apparatus of claim 28, wherein the ~~first~~ barrier extends substantially around an outer edge or portion of the substrate table.

36. (Currently Amended) The apparatus of claim 28, wherein the ~~first~~ barrier additionally surrounds a sensor mounted on an upper surface of the substrate table and/or a closure member configured to seal the liquid supply system.

37. (New) The apparatus of claim 28, wherein the barrier comprises two collecting recesses at opposite corners of the barrier.

38. (New) The apparatus of claim 37, wherein the collecting recesses have at their deepest recessed point an outlet.

39. (New) The apparatus of claim 37, wherein the groove is slightly tilted along its length such that any liquid in the groove can run under force of gravity towards the collecting recesses.

40. (New) The apparatus of claim 1, wherein the substrate table further comprises a chamber in liquid contact with the upper surface via the groove and the chamber is a continuous annular chamber which has a cross-sectional area larger than that of the groove.

41. (Withdrawn – New) The apparatus of claim 1, wherein the groove is formed in the projection.

42. (Withdrawn - New) The apparatus of claim 41, wherein the projection overhangs the upper surface of the substrate table.

43. (Withdrawn - New) The apparatus of claim 41, wherein the substrate table further comprises a chamber in liquid contact with the upper surface via the groove and the chamber is at least partly formed in the projection.

44. (New) The apparatus of claim 1, wherein the barrier comprises two collecting recesses at opposite corners of the barrier.

45. (New) The apparatus of claim 44, wherein the collecting recesses have at their deepest recessed point an outlet.

46. (New) The apparatus of claim 44, wherein the groove is slightly tilted along its length such that any liquid in the groove can run under force of gravity towards the collecting recesses.

47. (New) The method of claim 19, wherein at least a part of the barrier comprises a liquidphillic material or coating.

48. (Withdrawn – New) The method of claim 19, wherein the groove is formed in the projection.